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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,891	03/12/2004	Russell Smith	006242.00043	4903

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WASHINGTON, DC 20001

EXAMINER

PIERCE, JEREMY R

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 05/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/798,891

Applicant(s)

SMITH ET AL.

Examiner

Jeremy R. Pierce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on March 1, 2006 has been entered. Claims 6, 7, 13, 15, and 17 have been amended. Claims 1-20 remain pending. The amendment to claims is sufficient to overcome the 35 USC 112 2nd rejections set forth in section 3 of the last Office Action.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-15, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. (US 2002/0155282) in view of Ali (U.S. Patent No. 4,647,486).

Randall et al. disclose a gypsum core sandwiched between two layers of glass fiber mats that were pre-coated with a combination of mineral pigment, inorganic adhesive binder, and organic binder (Abstract). The fibrous mat has a thickness between 10 and 40 mils (paragraph 38). The coating allows air and water to evaporate through during drying of the board (paragraph 37). The slurry penetrates into the non-coated sided of the fabric and contacts the coating (paragraph 54).

Randall et al. do not disclose the percent thickness of the mat into which the coating extends. However, various values provided by Randall et al. imply Applicant's claimed limitation of 30 to 50%. Randall et al. disclose the mat is completely embedded into the coating on one surface (paragraph 51). The thickness of the fiber mat is 10 to 40 mils (paragraph 38). The midpoint of this range would be 25 mils. Randall et al. teach the coating should have a thickness of 10 mils (paragraph 52). These values indicate a percent penetration of the coating into the mat of about 40%. Also, Randall et al. disclose that where a relatively thin mat is used (i.e. 10 mils, since this is the lowest thickness value disclosed), a coating as thin as 4 mils may suffice (paragraph 52). This would also give a percent penetration of 40%. Even if not implicitly inherent, it would have been obvious to a person having ordinary skill in the art at the time of the invention to extend the coating between 30 and 50% into the thickness of the mat in order to provide sufficient bonding, since Randall et al. teach embedding the fabric into the coating and teach the coating may vary in thickness from 4 to 30 mils (paragraph 52).

Randall et al. do not disclose the percentage of combined water in the gypsum core in a region near the bond. Ali teaches that combined water in gypsum provides for an effective fire barrier when about 21% of combined water is present (column 1, lines 20-23). It would have been obvious to a person having ordinary skill in the art at the time of the invention to provide at least 17% combined water in the gypsum core of Randall et al. in order to improve fire barrier properties, as taught by Ali.

With regard to claims 2 and 8, Randall et al. teach using various hydrophobic, UV resistant polymer latex materials (paragraph 49). With regard to claim 3, the glass

fibers may have a diameter of 13 to 16 microns (paragraph 39). With regard to claims 4 and 12, the mat may weigh 1 to 3 pounds per 100 square feet (paragraph 39). With regard to claim 5, the gypsum core density may be between 40 and 55 pounds per cubic foot (paragraph 36). With regard to claim 6, the coating may weight between 50 and 100 pounds per 1000 square feet of mat (paragraph 51). With regard to claims 7, 9, 18, and 19, Randall et al. teach the claimed portions of mineral pigment, inorganic binder, and organic binder (paragraph 41). With regard to the limitation of microporosity of the coating in claims 6 and 7, although Randall et al. do not explicitly teach the measurement of microporosity as measured by the modified Gurley method, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. the same coating comprising mineral pigment, organic binder, and inorganic binder) and in the similar production steps (i.e. pre-coating a fibrous mat and bonding the mat to a gypsum slurry) used to produce the gypsum board. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594. In the alternative, the claimed microporosity would obviously have been provided by the process disclosed by Randall et al. because the entire goal of the reference is to provide a coating that is liquid impermeable, but does allow water vapor to pass through (paragraph 41). With regard to claim 10, the coating is first applied as an aqueous composition (paragraph 53). With regard to claim 11, the claimed additives may be combined with the coating (paragraph 59). With regard to claims 13-15, water-resistant additive, such as PVA or wax emulsion is used in the gypsum core (paragraph 34).

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4. Claims 16 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. in view of Ali as set forth above, and further in view of Babcock et al. (U.S. Patent No. 4,746,365).

Randall et al. teach that the latex adhesive binder may be a styrene-acrylic copolymer (claim 16). However, Randall et al. do not teach the acrylic portion of the copolymer can be (meth)acrylic. Babcock et al. teach various latex emulsions for coating gypsum boards (Abstract). Babcock et al. disclose that copolymers of styrene and methacrylate create latex useful for this purpose (column 8, lines 15-16). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use methacrylate copolymer in Randall et al. as taught by Babcock et al., since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. *In re Leshin*, 125 USPQ 416.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Randall et al. in view of Ali and Babcock et al. as set forth above, and further in view of Miyakoshi (U.S. Patent No. 5,827,788).

Randall et al. teach that the board may have both surfaces faced with a coated fibrous mat, but may have a surface that is not faced with a coated fibrous mat (paragraph 57). Miyakoshi teach that a blend of glass fibers and synthetic fibers can create a decorative layer useful on gypsum boards (column 4, lines 1-9). It would have been obvious to a person having ordinary skill in the art at the time of the invention to use a fiber layer of glass and synthetic fibers in order to create a decorative layer on the gypsum board of Randall et al., as taught by Miyakoshi.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-16, and 18-23 of copending Application No. 10/417,344 in view of Ali. The '344 Application provides a gypsum core, fibrous mat, and a coating comprising mineral pigment and hydrophobic, UV resistant polymer latex adhesive. The dependent claims from the Patent provide similar structural limitations as to those found in the present application. While the '344 Application is silent with respect to the percentage of combined water found in the gypsum core, providing an amount greater than 17% is determined to be obvious in view of Ali for the reasons set forth above in the prior art rejection.

This is a provisional obviousness-type double patenting rejection.

8. Claims 1-20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,808,793 in view of Ali. The '793 Patent provides a gypsum core, fibrous mat, and a coating comprising mineral pigment and hydrophobic, UV resistant polymer latex adhesive. The dependent claims from the Patent provide similar structural limitations as to those found in the present application. While the '793 Patent is silent with respect to the percentage of combined water found in the gypsum core, providing an amount greater than 17% is determined to be obvious in view of Ali for the reasons set forth above in the prior art rejection.

Response to Arguments

9. Applicant's arguments filed March 1, 2006 have been fully considered but they are not persuasive.

10. Applicant argues that the claimed amount of 30-50% of coating penetration into the thickness of the mat is not an inherent consequence of the parameters disclosed by Randall et al. However, the Examiner has set forth a reasonable basis in the rejection for the claimed coating penetration to be inherent in the teachings of Randall et al., or at the very least, obvious to provide. Applicant has not addressed this basis.

11. Applicant asserts that Randall et al. do not teach the strength of the bond between the pre-coated mat facer and the core of the gypsum board is maximized when the coating lies within the range of 30 to 50%. From this, Applicant concludes that

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Randall does not make the claimed invention obvious. However, a direct teaching of the claimed limitation is the standard for anticipation, not obviousness. The rejection is based upon a theory of inherency or obviousness.

12. Applicant argues that Ali does not suggest the exact stoichiometry of hydrated gypsum must be maintained across the entire cross-section of the commercially produced gypsum board either to maintain the desired structural properties of the board or to maintain effectiveness of the board as a fire barrier. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., stoichiometry of hydrated gypsum maintained across the entire cross-section) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

13. Applicant argues that Ali does not suggest any particular limit on surface calcinations that unavoidably accompanies commercial board drying operations. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (571) 272-1479. The examiner can normally be reached on normal business hours, but works flextime hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

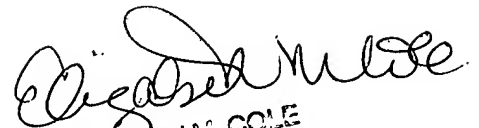
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free).



Jeremy R. Pierce
May 1, 2006



ELIZABETH M. COLE
PRIMARY EXAMINER